

RESPONSE under 37 C.F.R. § 1.111
U.S. Appl. No. 10/756,098

REMARKS:

By this Amendment, Applicant cancels claims 6 and 20 thus claims 1-5, 7-19 and 21-28 are all the claims pending in the present application. Claims 1-11, 13, 17-19 and 21-28 stand rejected while claims 12, 14-16 and 20 are objected to. Reconsideration and allowance of all pending claims are respectfully requested in view of the remarks that follow.

PREVIOUS RESPONSE.

By virtue that none of the rejections in the Office Action dated 4/19/2005 are reasserted in the present Office Action, Applicant assumes these rejections are deemed withdrawn in light of Applicant's response submitted on September 19, 2005.

ALLOWABLE SUBJECT MATTER.

The Office Action status of claims is incorrect. As indicated on the Summary and on page 5 of the 12/1/2005 Office Action, claims 12, 14-16 and 20 are objected to as including allowable subject matter but depending upon a rejected base/intervening claim. While again Applicant kindly thanks the Examiner for the indication of allowable subject matter, in Applicant's response filed on September 19, 2005, claim 12 was amended into independent form to address this objection. Thus claims 12 and 14-16 no longer depend from a rejected claim and should have been indicated as allowable. Such action is hereby solicited in the next Official communication.

CLAIM REJECTIONS.

35 U.S.C. § 102(e)

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Claims 1, 6, 11 and 17 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,952,190 to Lynch et al. (hereinafter "Lynch '190"). Applicant respectfully traverses this rejection for the following reasons.

A finding of anticipation under 35 U.S.C. § 102 requires that each and every limitation of the rejected claim be disclosed (expressly or inherently) by a single prior art reference. (MPEP 2131 citing *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

In the instant case, the Office Action alleges that Lynch '190 discloses all of the limitations of Applicant's independent claims 1, 11 and 17. However, Applicant respectfully points out that nowhere in Lynch '190 is a very high frequency (VHF) antenna disclosed or a frequency selective surface (FSS) structure having a band gap in the VHF band. The Examiner is respectfully reminded that the VHF band is range of frequencies between 30 MHz and 300 MHz. By way of contrast, Lynch '190 discloses an antenna structure designed for microwave frequencies in the band of 11-16 GHz with a bandgap of 5GHz. (Col. 4, ll. 1-15). Because Lynch '190 fails to expressly or inherently disclose every feature recited in Applicant's independent claims 1, 11 and 17 (or claim 6 by virtue of its dependency on claim 1), Lynch '190 cannot possibly anticipate these claims.

35 U.S.C. § 103

Claims 2-5, 7-10, 13, 18-19 and 21-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lynch '190 in view of U.S. Published Patent Appln. 2004/0075617 to Lynch et al. (hereinafter "Lynch '617 Application"). Applicant respectfully traverses this rejection for the following reasons.

It is well established that a *prima facie* obviousness is only established when three basic criteria are met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify

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the reference or combine reference teachings. Second, there must be a reasonable expectation of success in the combination and finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaack*, 947 F.2d 488 (Fed. Cir. 1991) (MPEP 2144).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990).

In the instant rejections, the Office Action proposes it would be obvious to combine the teachings of Lynch '109 with those of the Lynch '617 application. Applicant respectfully disagrees and submits that Lynch '109 patent is the same disclosure as the Lynch '617 application (see application numbers of both references). Accordingly, there does not appear to be any reason why a skilled artisan would combine the teachings of two references which are the same. Notwithstanding, Applicant presumes that the citation of redundant references in this 103 rejection and the reference to "McKinzie" on page 5 of the Office Action are merely an inadvertent mistake and addresses this rejection as if based solely on the Lynch '109 reference. Should Applicant's assumptions be incorrect, the Examiner is respectfully requested to issue a new Office Action clarifying the grounds of rejection of Applicant's claims.

As discussed above with respect to the 102(e) rejection based on Lynch '109, there are indisputable differences at least between the frequency ranges/structures in Applicant's claims (e.g., VHF) as compared to those disclosed by Lynch '109 (microwave ranges). To these differences, the Office Action alleges the differences in antenna frequencies, band gaps, sizes of

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plates, etc. are simply a matter of obvious design choice. Applicant respectfully disagrees and submits the structure disclosed by Lynch '109 is inherently different than that claimed by Applicant. The most apparent differences between Applicant's claims and Lynch '109 is that Applicant expressly claims a VHF aircraft antenna (claims 1, 17) or aircraft antenna to receive RF signals (claims 21, 25) which is adjacent to a frequency selective surface (FSS) structure. As stated in Applicant's specification, the FSS structure 30 may be positioned adjacent to an antenna to lessen or suppress RF surface currents in the VHF or ILS bands from propagating along the conductive back plane of FSS 30. This may serve to reduce or eliminate interference from electronic devices located within an aircraft. (Specification pg. 6, ll. 15-19).

By way of contrast, Lynch '109 expressly discloses a High-impedance (HI-Z) or FSS structure 10 which itself serves as a microwave antenna (by virtue of its slot) and which has no individual antenna elements. (Col. 3, ll. 27-35). It is the FSS 10 itself which radiate microwave energy from waveguide 22 or microstrip 24 into the air. Accordingly, Lynch '109 does not teach or remotely suggest any antenna adjacent to a FSS structure as claimed in various of Applicant's claims. Because Lynch '109 fails to teach or suggest at least the antenna element of Applicant's independent claims, a *prima facie* case of obviousness has not been established.

Additionally, several of the allegations in the Office Action are respectfully incorrect. For example, on the second paragraph of page 4 of the 12/1/05 Office Action regarding claim 22, it is alleged that Lynch '109 discloses a wireless receiver coupled to receive RF signals from the aircraft antenna citing Figs. 1a-2e. Applicant is unable to find such a wireless receiver in either the published Lynch application or the issued '190 patent and respectfully submits it is not shown. Additionally, the third paragraph on the same page of the Office Action alleges that Lynch '109 discloses that the receiver is part of an ILS or VHF Omni range (VOR) system. Once again, since Lynch '109 does not disclose any receiver whatsoever, and in fact discloses a microwave antenna using frequencies in the GHz range, these allegations are erroneous.

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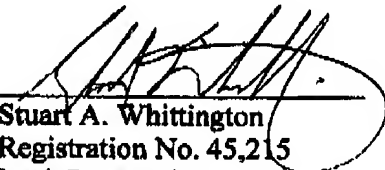
Regarding the various allegations of obvious design choices, Applicant disputes all of these allegations for the following reasons. Notably, since the FSS structure 10 disclosed by Lynch '109 is itself a microwave slot antenna, Applicant respectfully submits that adaptation for use with longer wavelengths associated with VHF frequencies, if even physically possible, may result in an antenna of impractical proportion. Notwithstanding, in an effort to advance the prosecution of this case to issuance, Applicant amends the independent claims of the present application to recite at least the printed inductor limitations similar to that of claim 12.

Since Lynch '109 nor any prior art of record teach or suggest these features, Applicant respectfully requests that the 102 and 103 rejection of record be reconsidered and withdrawn.

CONCLUSION.

In view of the above, reconsideration and allowance of this application is now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below. Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee or deficiency thereof, except for the Issue Fee, is to be charged to Deposit Account # 50-0221.

Respectfully submitted,


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